

Appln No. 10/685,174

Amdt date January 7, 2005

Reply to Notice of Allowance dated October 7, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for conveying a flowable material through piping, the method comprising:

providing a material ~~handling~~ handling system including an outer barrel having an inlet end, an outlet end, and an interior cylindrical surface, an accelerating chamber, having an inlet end and an outlet end, the inlet end of the accelerating chamber extending concentrically from the outlet end of the outer barrel, the accelerating chamber having a substantially conical interior surface that converges in a direction from the inlet end to the outlet end, an inner barrel having an exterior surface with a first end and a second end, the inner barrel located concentrically inside the outer barrel, wherein the outer barrel, the inner barrel, and the accelerating chamber are arranged to form a substantially unobstructed ~~annular~~ space between the interior cylindrical surface of the outer barrel and the exterior surface of the inner barrel, the unobstructed ~~annular~~ space extending from the first end of the exterior surface of the inner barrel to the substantially conical interior surface of the accelerating chamber, an inlet conduit mounted to the inlet end of the outer barrel to direct the flowable material through the outer barrel into the unobstructed ~~annular~~ space, wherein the first end of the exterior surface of the inner barrel is adjacent the inlet conduit and the second end of the exterior surface of the inner barrel is adjacent the

Appln No. 10/685,174

Amdt date January 7, 2005

Reply to Notice of Allowance dated October 7, 2004

accelerating chamber, wherein the inlet conduit is directed tangentially to the interior cylindrical surface of the outer barrel to set up a flow pattern in the unobstructed ~~annular~~ space such that flowable material flowing from the inlet conduit into the outer barrel will circulate around the inner barrel and traverse the unobstructed ~~annular~~ space from the inlet end of the outer barrel toward the outlet end of the outer barrel, wherein the inner barrel is closed at the downstream end; and

introducing a flow of said flowable material that is tangential to the interior cylindrical surface of the outer barrel into the opening in the outer cylinder, such that the flow of the material travels around the inner barrel and toward the outlet end of the outer barrel.

2. (Original) The method of claim 1 wherein the step of introducing comprises coupling the piping of a natural gas line to the inlet end of the outer barrel.

3. (Original) The method of claim 1 wherein the step of introducing comprises coupling the piping of at least one of a gas delivery system and a material delivery system to the inlet end of the outer barrel.

4. (Original) The method of claim 1 wherein the step of introducing comprises:

placing the outer barrel and accelerating chamber above a natural gas source emitting natural gas;

enclosing the outer barrel and accelerating chamber in closed casing; and

pressurizing the casing.

Appln No. 10/685,174

Amdt date January 7, 2005

Reply to Notice of Allowance dated October 7, 2004

5. (Original) The method of claim 1 wherein the step of introducing comprises:

placing the outer barrel and accelerating chamber above a natural gas source emitting natural gas;

enclosing the outer barrel and accelerating chamber in close casing; and

placing a seating nipple above the inlet end of the outer barrel, such that the natural gas is substantially restricted from rising above the inlet end of the outer barrel.

6. (Original) The method of claim 1 further comprising draining fluid from the piping.

7 - 12 (Cancelled)

13. (New) A flow development chamber comprising:

an outer barrel having an inlet plate with an inlet opening, an outlet end and an interior cylindrical surface;

an accelerating chamber having an inlet end and an outlet end, the inlet end of the accelerating chamber extending concentrically from the outlet end to the outer barrel, the accelerating chamber having a substantially conical interior surface that converges in a direction from the inlet end to the outlet end;

an inner barrel having an exterior surface with a first end and a second end, the inner barrel located concentrically inside the outer barrel, wherein the outer barrel, the inner barrel and the accelerating chamber are arranged to form a substantially unobstructed space between the interior cylindrical surface of the outer barrel and the exterior surface of the inner barrel, the unobstructed space extending from the first end of the exterior surface of the

Appln No. 10/685,174

Amdt date January 7, 2005

Reply to Notice of Allowance dated October 7, 2004

inner barrel to the substantially conical interior surface of the accelerating chamber;

deflecting means proximate to the inlet opening for directing flow tangentially to the interior cylindrical surface of the outer barrel to set up a flow pattern in the unobstructed space such that a flowable material flowing from the inlet conduit into the outer barrel will circulate around the inner barrel and traverse the unobstructed space from the inlet plate toward the outlet end of the outer barrel;

wherein the inlet opening on the inlet plate is configured to direct the flowable material through the outer barrel into the unobstructed space; and

wherein the first end of the inner barrel is adjacent to the inlet plate and the second end of the exterior surface of the inner barrel is adjacent to the accelerating chamber.

14. (New) The flow development chamber of claim 13 wherein the inner barrel is substantially cylindrical.

15. (New) The flow development chamber of claim 13 wherein the inner barrel is substantially conical.

16. (New) The flow development chamber of claim 13 wherein the inner barrel is substantially cylindrical at the first end and substantially conical at the second end.

17. (New) A flowable material handling system for handling flowable materials, comprising a flow development chamber, the flow development chamber comprising:

an outer chamber;

an inner barrel located inside the outer chamber to define a flow space between the outer chamber and the inner

Appln No. 10/685,174

Amdt date January 7, 2005

Reply to Notice of Allowance dated October 7, 2004

barrel;

an inlet plate coupled to the outer chamber, the inlet plate having an inlet opening configured to direct flowable material into the flow space between the outer chamber and the inner barrel;

a deflector located downstream of the inlet opening for directing flow tangentially to the interior surface of the outer barrel to set-up a flow pattern in the flow space such that a flowable material flowing from the inlet opening into the outer chamber will circulate around the inner barrel and traverse the flow space from the inlet plate toward an outlet end of the outer chamber.